# REMARKS

Claims 61, 64, 66, 68, and 81-88 are pending in the application and are rejected in this Office Action.

## Rejections Under 35 U.S.C. §103

The Examiner rejects claims 61, 64, 66, 68, 83, 85 and 87 under 35 U.S.C. §103(a) as being unpatentable over Strella et al. US 3,928,656 (the '656 patent) of record in view of Ohno 5,854,365 (the '365 patent) of record in view of Perronin et al. US 3,991,007 (the '007 patent) of record as evidenced by US 5,798,426 (of record).

The Examiner indicates that Strella discloses a method of developing electrostatic latent images with pressure sensitive toner. The toner comprises 19 parts of an ionic polymer (15.8%), 100 parts of tetrahydrofuran (ether solvent-83.3%), and 1 part Mogul black (pigment-0.8%) (see example 1 and preparation of toner, column 9; see instant claim 61, 64 and 66). The ionic polymer disclosed is butyl methacrylate-acrylic copolymer (94.2/5.8) with a TG of 46 degrees Celsius (see examples II and VIII; see instant claim 61). The Examiner indicated that Strella teaches the use of a pigment or dye such as carbon black, a commercial red, blue, or yellow dye, or any other well-known pigment in an amount of 1-20% (see column 6, lines 4-16); see instant claim 87).

The Examiner indicates that although Strella teaches pigments in the composition, the instant pigments are not specified and that the instant solvents and the inclusion of nitrocellulose are not taught.

The Examiner uses Ohno indicating that Ohno teaches a toner composition wherein the pigment may be carbon black, an aniline black, acetylene black, naphthol yellow, Hansa yellow, rhodamine lake, alizarin lake, iron oxide red, phthalocyanine blue and indanthrene blue in the amount of 0.1-20% (see column 22, lines 25-40; see instant claim 61 and 87).

The Examiner indicates Perronin teaches the preparation of pigmentary particles coated with an organic polymer to allow dispersion of the pigment in a medium. Perronin discusses the importance of pigments in many fields such textiles, plastics, inks, textiles, and cosmetics (see column 1, lines 10-12), the pigment compositions may be advantageously used in numerous fields of application, such as inks, plastics materials, paints, or other colored preparations (see column 4, lines 45-55), examples of monomers which may be used in the process include 1) alkene-mono- or di-carboxylic acids, preferably the acids containing up to five carbon atoms, for example acrylic, methacrylic, etc.; 2) esters of these acids, such as methyl, ethyl, butyl, etc.(see column 3, lines 40-60; see instant claim 61),the pigments used in the composition may be iron oxides and titanium dioxide (see column 2, line 65 to column 3, line 5; see instant claim 61). The solvents may be selected from gasolines, aromatic hydrocarbons such as benzene, toluene, xylene, halogenated hydrocarbons such as trichloroethylene, perchloroethylene, chlorobenzene, trichlorobenzene, chlorofluoromethanes, chlorofluroethanes, alcohols such as methanoel, ethanol, n-propanol, 1-methyl-ethanol, n-butanol, 2 methyl-propanol, 1,1-dimethyl-ethanol, ketones such as 2-propanone, 2-butanone, 4-methyl-2-pentanone, esters such as ethyl acetate, propyl acetate, 1-methyl-ethyl acetate, ethers such as diethyl ether, ethylpropyl ether, tetrahydrofuran, and 1,4-dioxan (see column 2, lines 45-61; see instant claim.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. Manual of Patent Examining Procedure 2141.02, 2100-121 -122, Rev. 5, Aug. 2006.

In determining obviousness under 35 U.S.C. 103 the four factual inquiries are:

(a) determining the scope and contents of the prior art;

(b) ascertaining the differences between the prior art and the claims in issue;

(c) resolving the level of ordinary skill in the pertinent art; and

(d) evaluating evidence of secondary consideration.

*Graham v. John Deere,* 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Often, it will be necessary...to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *KSR Int'l Cp. v. Teleflex Inc.,* No 04-1350 (US Apr. 30, 2007).

Applicant's claim a composition that comprises a pigmented nail enamel mixture of

(i) a solution of a film-forming addition polymer, of ethylenically unsaturated monomers, in non-aqueous solvent selected from the group consisting of aliphatic ketones, aromatic ketones, aliphatic alcohols, aromatic alcohols, glycol ethers, esters, and benaoates, and

(ii) 0.1-30%, by weight of the composition, of pigment comprising at least one member selected from the group consisting of iron oxides, D&C colors, FD&C colors, and titanium dioxide,

wherein

a) the polymer consists of a copolymer of acrylic acid and butyl methacrylate that contains about 2-14 wt.% acrylic acid;

b) the polymer has a glass transition temperature in the range of 5 to 90° C;

c) the polymer constitutes about 5-95 wt.% of the composition; and

d) the composition is suitable for application to human nails.

In this Office Action the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Strella, Ohno, and Perronin and substitute tetrahydrofuran with the claimed solvents such as isopropanol, ethyl acetate and so on. The Examiner claims that pigments would have been included based on the use of pigments in Ohno and Perronin in compositions comprising polymers. The Examiner believes that Strella's composition is capable of leaving a water-insoluble film on a nail since the compositions are substantially similar.

Applicants file a Declaration under 37 C.F.R. § 1.132 that demonstrates that Strella's composition is not capable of leaving a water-insoluble film on the nail when tetrahydrofuran is substituted with the claimed solvents.

Applicant was not able to use the pigments described in Strella because the pigments can not be used in the cosmetics market. Applicants have attached in Exhibit A correspondence from the pigment manufacturer refusing to sell the pigments. The pigments in Strella are not the same as the pigments in Ohno or applicant's claims and one of skill in the art would not substitute pigments from a printing application in a cosmetic composition. There would not be an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *KSR Int'l Cp. v. Teleflex Inc.,* No 04-1350 (US Apr. 30, 2007).

The Examiner suggests that Perronin's use of 1.0% nitrocellulose in their composition obviates the instantly claimed ranges.

The composition in Strella is alkaline or neutral. It is known by one of skill in the art that combination of nitrocellulose in an alkaline or neutral environment will produce hazardous by products such as nitrates, ammonia, and cyanides (Exhibit B *The Physical Chemistry of Nitrocellulose*). If Applicants had added nitrocellulose to the composition in Strella a dangerous condition would have been created. One of skill in the art having any knowledge of nitrocellulose chemistry would not have taken the disclosure in Perronin and added nitrocellulose to the composition of Strella.

As set forth in the Exhibits provided the combination of Strella, Ohno, and Perronin would not only have **not** created the nail enamel of Applicant's claimed composition but would have created a hazardous material.

In view of the above amendments and remarks, Applicants request withdrawal of the 103 rejection and respectfully submit that this application is now in condition for allowance and earnestly request such action.

If any points remain at issue which can best be resolved by way of a telephonic or personal interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

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# EXHIBIT A

Paul,

Unfortunately we dont sell our carbon blacks into the cosmetics market.

Regards,

Jesse Kleczka
Technical Service Manager
Cabot Corporation
157 Concord Road
Billerica, MA 01821
Tel: 978-670-6144
Fax: 978-670-7035

Additional Information Available at WWW.CABOT-CORP.COM
Additional Services Available at CABOTech
----- Forwarded by Jesse Kleczka/Billerica/Cabot on 12/18/2008 05:01 PM
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Cabot Web Site

Product: Carbon Black
Market: Coatings
Application: Other Coatings Systems

Click here to view the inquiry -> (Document link: Inquiry Document)

Comments: To whom it may concern,

I would like to request a sample and literture of Mogul L for our evaluation in nail enamel films. Please send a 200g sample if possible. If there are any problems, please let me know. Thanks!

# EXHIBIT B

# CELLULOSE NITRATE

*The Physical Chemistry of Nitrocellulose,*
*its Formation and Use*

BY
FRANK DOUGLAS MILES

PUBLISHED FOR
IMPERIAL CHEMICAL INDUSTRIES LIMITED
BY
OLIVER AND BOYD
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containing phosphoric or acetic acids, or mixtures of nitric acid and potassium nitrate, give higher nitrogen contents than do the usual mixed acids.

## 3. Hydrolysis by Alkaline Reagents

**The Denitration of Nitrocellulose and Other Organic Nitrates.** The hydrolysis of cellulose nitrate by alkaline or nearly neutral reagents is almost always known as denitration. Although quite heterogeneous, the reaction is very rapid in comparison with acid hydrolysis. It is anything but simple. That the action of alkalis, particularly of sodium or potassium hydroxide, on the organic nitrates is never a straightforward saponification by which the alcohol is regenerated, has long been known. Generally there are complex changes in which oxidation products appear and the nitrate radical is converted into the nitrite ion. Methyl nitrate yields mainly dimethyl ether. Ethyl nitrate gives no alcohol. Ethylene dinitrate is said to yield carbon dioxide, oxalic acid and glycol. The products of the alkaline hydrolysis of nitroglycerine have been said to include ammonia, carbon dioxide, formic, acetic and oxalic acids, alkyl cyanides and nitrates, and many other substances. Whether any glycerol is produced is not certain; its presence has been both affirmed and denied. In general the original hydroxy compound cannot be recovered from the nitrate except by reduction. The many references to the earlier work on the denitration of these nitrates, as well as of nitrocellulose, need not be given in detail, since adequate collections of them can be consulted.[32]

The list of products which many workers have claimed to obtain from the action of alkalis on nitrocellulose is naturally still more various. In addition to modified cellulose, of which the nature and quantity depend on the vigour of the alkaline attack, the list includes inorganic nitrates and nitrites, ammonia, cyanides and carbon dioxide; oxalic, maleic, glycollic and malonic acids and many others, some of which have not been identified. In 1906 Silberrad and Farmer[33] examined the material into which 800 kg. of gelatinised nitrocellulose had been degraded by storage in a magazine at 54° C for 23 weeks, with occasional access of steam. Of 100 kg. taken for the examination the greater part was almost unchanged (with a nitrogen content of 12·0 instead of the original 12·3%), but the aqueous extract gave evidence of a decomposition as profound as when alkali is employed. Most of the substances already mentioned were present along with isosaccharic acid and also hydroxypyruvic acid, which had several times been reported previously as one of the products of alkaline decomposition. In this case the reaction mass was acid and not alkaline, and it is evident that in either case the fundamental factor is the oxidising power of the nitrate groups, exerted on the rest of the pyranose ring in such a way that even alkali is unable to inhibit it. Under reducing conditions the extensive breakdown does not occur.

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[32] HESS. *Chemie der Zellulose*, p. 377. Berlin, 1928.

[33] SILBERRAD and FARMER. *J. Chem. Soc.*, 89, 1182, 1906.

For some twenty years before the war of 1914–18 nitrocellulose rayon was manufactured on the Continent by the denitration of nitrocellulose, an ether-alcohol solution being spun into a denitrating bath in which the effective agent was usually sodium hydrosulphide. The normal sulphides, the polysulphides and the thiocarbonates of the alkalis were also proposed, but hydrosulphides produced less degradation than the normal sulphides and were in the most general use. The needs of this industry were incentives to much research, mainly of a semi-technical kind, but did not do much to solve the very difficult chemical problems of the alkaline decomposition. Various other reagents, such as alcoholic sodium ethylate, were suggested. It was found that the oxidising effect could be lessened by the addition of certain inorganic salts such as those of ferric iron, copper and tin. A systematic study of the effect of numerous denitrating agents was published in 1924 (when the denitration process for rayon was almost extinct) by Rassow and Dörr.[34] They found the hydrosulphide of ammonium or potassium to be more effective in alcoholic than in aqueous solution. At 20–40° C denitration was nearly complete in from two to six hours, the time depending on the type of nitrocellulose in use. The nitrate was not quite eliminated by this treatment, however, because a test of the fibres with diphenylamine-sulphuric acid reagent always showed, by the formation of the characteristic blue colour, some undenitrated regions. Such regions were always to be seen under the microscope in Chardonnet rayon fibre, in producing which the denitration time must of course have been much less than in Rassow and Dörr's experiments. Their method is generally adopted when it is desired to denitrate nitrocellulose in the laboratory under the best possible conditions. To treat with a 6% solution of ammonium hydrosulphide in 60% alcohol for 20 hours at 20° C is quite a usual prescription. Such a solution will have a *p*H of 9·0, the molar ratio $H_2S : NH_3$ will be about 0·85, and there will be no perceptible effect on the viscosity or any other measurable property of *cellulose* which has not been modified by chemical treatment.[35]

Denitration always causes a degradation which is accompanied by a loss of yield in unfavourable cases and by a marked loss of viscosity even when reducing reagents are used and the conditions are such as have just been quoted. Rogowin and Schlachover[36] nitrated cotton linters

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[34] RASSOW and DÖRR. *Z. prakt. Chem.*, 108, 118, 1924.

[35] DAVIDSON. *J. Text. Inst.*, 29, T195, 1938; also T81, 1940.

[36] ROGOWIN and SCHLACHOVER. *Z. angew. Chem.*, 48, 647, 1935.